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Ship moving through the Panama Canal—a key east-west link for U.S. farm trade.

The Panama Canal And U.S. Farm Trade

On September 7, 1977, President Carter and Panamanian President Omar Torrijos signed the Panama Canal Treaties—now up for ratification by the U.S. Senate—capping over a decade of treaty negotiations and more than 60 years of U.S. operation of this water bridge between the Pacific and Atlantic Oceans. Throughout those years, the Canal has been crucially important to U.S. farm trade—and it will continue so in the future as U.S. farmers produce increasingly for the world market.

While its role in total U.S. trade has declined in recent years, the 51-mile-long Panama Canal continues to be a key east-west link for U.S. farm trade. Grains, soybeans, and cotton headed to the Far East from U.S. Great Lakes, east coast, and gulf ports are especially dependent on the Canal, whose opening in 1914 gave U.S. shippers a welcome alternative to the hazardous Cape Horn route and helped foster east-west trade.

During 1976, about one in every 5 tons of U.S. farm product exports moved through the Canal. This amounted to some 20 million metric tons, or two-thirds of all farm product traffic through the Canal last year and about 17 percent of total Canal shipping.

Far the most important farm commodities shipped via the Canal are grains, soybeans, and other bulk products, whose lifelines to foreign markets are still the ocean-going tankers and freighters.

During fiscal 1976 grains and soybeans accounted for 16.3 percent of all traffic through the Canal—their share being exceeded only by the 18.7 percent for petroleum and petroleum products.

In calendar 1976, roughly 18 percent of the 44.3-million ton U.S. corn export, 26 percent of the 15.3 million-ton soybean export, and 45 percent of the 5.7-million ton grain sorghum export moved through the Canal. These three products, combined, earned $9.1 billion in foreign exchange for the United States during 1976 out of the $23 billion in total U.S. farm exports.

Adding in other bulk products dependent on Canal transit—including wheat and cotton—would push the figure much higher still.

By penetrating the land barrier to transportation posed by Central and South America, construction of the Canal through the Isthmus of Panama represented one of the early breakthroughs for U.S. trade, paving the way for export gains in the Far East and other distant markets. For many U.S. farm products, this advantage continues, despite hikes in Canal tolls since 1974 and the advent of air transportation and innovative land-sea connections.

Last year, for instance, the Canal handled 70 percent of all U.S. farm commodity exports to 15 markets in East, Southeast, and South Asia and Oceania. The Asian market as a whole now means $8.5 billion to U.S. farmers and ranks alongside Western Europe as the leading outlet for U.S. agricultural products.

Japan—the largest single-country market, with imports of U.S. farm products approaching $4 billion—took over 12 million tons of U.S. agricultural shipments through the Canal last year. That adds up to around 60 percent of all U.S. farm product exports through the Canal and an even larger percentage of U.S. farm trade with Japan.

South Korea and Taiwan each took more than 1.5 million tons of U.S. products via the Canal last year, while Hong Kong, Indonesia, and Chile also received large quantities of westward bound shipments.

Such products originate throughout the eastern half of the United States, rang-

Comparative Distances to Selected Ports via Panama Canal (PC) and Straits of Magellan (M)

[In nautical miles]

From	Via	To							
		San Francisco	Seattle (Vanc.)	Guayaquil	Callao	Valparaiso	Yokohama	Shanghai	Singapore
New York (N.Y.)	PC	5,263	6,038	2,842	3,368	4,634	9,700	10,584	12,523
	M	13,122	13,898	10,241	9,605	8,366	16,209	16,761	16,619
Halifax (N.S.)	PC	5,583	6,358	3,162	3,688	4,954	10,020	10,904	12,843
	M	12,987	13,763	10,106	9,470	8,231	16,074	16,626	(1)
Norfolk (Newport News, Va.)	PC	5,067	5,842	2,646	3,172	4,438	9,604	10,388	12,327
	M	13,068	13,844	10,187	9,551	8,312	16,155	16,707	(1)
New Orleans (La.)	PC	4,689	5,464	2,268	2,794	4,060	9,126	10,010	11,949
	M	13,495	14,271	10,614	9,978	8,739	16,582	17,134	(1)
Aruba (Neth. Ind.)	PC	3,922	4,697	1,501	2,027	3,293	8,359	9,243	11,182
	M	12,006	12,782	9,125	8,489	7,250	15,093	15,645	(1)
Rio de Janeiro (Brazil)	PC	7,656	8,431	5,235	5,761	7,027	12,093	12,977	(1)
	M	8,426	9,202	5,545	4,909	3,670	11,513	12,065	11,923
Buenos Aires (Argentina)	PC	8,674	9,449	6,253	6,779	(1)	(1)	(1)	(1)
	M	7,582	8,358	4,701	4,065	2,826	10,669	11,221	11,079

[1] Not applicable.
Source: *Panama Canal Company Board of Directors: Report of Panel on Proposed Changes in Rates of Tolls for the Panama Canal.* Sept. 13, 1976.

Shipping scenes along the Panama Canal, clockwise from top: A containership with containers stacked three high; a passenger liner; and the Panama Railroad—called the shortest, fastest, cheapest, and widest transcontinental railway in the world—with the Pedro Miguel Locks in the background.

Panama Canal Cargo Movement, by Principal Trade Routes, 1966-75 [1]

[In thousands of long tons]

Item	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975
East Coast U.S.-Asia	25,912	29,742	34,691	39,486	48,337	49,535	40,036	50,051	56,935	55,402
Europe-West Coast U.S./Canada	7,343	6,786	7,481	7,600	8,932	9,698	9,160	10,210	11,555	10,561
East Coast U.S.-West Coast South America	7,628	7,867	6,778	7,383	8,674	8,007	6,805	7,929	8,498	8,417
Europe-West Coast South America	6,645	5,754	5,901	5,618	6,013	5,723	5,729	4,839	4,782	5,481
Europe-Asia	653	1,075	4,642	3,698	5,027	5,164	5,783	6,346	8,500	10,028
Europe-Oceania	2,255	2,184	2,752	2,659	2,864	3,397	2,938	3,307	3,588	3,590
U.S. Intercoastal (including Alaska and Hawaii)	5,787	5,273	4,678	3,793	3,670	3,794	3,134	3,812	4,647	4,386
West Indies-West Coast U.S.	1,579	2,385	2,311	2,019	2,061	2,536	2,341	2,065	2,279	2,746
East Coast South America-West Coast U.S.	2,692	1,996	2,160	2,257	2,700	3,106	2,744	2,576	4,462	2,934
East Coast U.S.-West Coast Central America/Mexico	2,798	1,031	1,216	1,192	1,143	1,577	1,626	1,717	2,170	1,869
South American Intercoastal	2,816	3,163	3,498	3,995	2,454	2,320	3,812	3,306	4,598	4,675
West Indies-Asia	1,848	2,001	2,618	2,400	2,479	3,225	2,141	2,352	2,557	2,150
East Coast Canada-Asia	704	1,148	1,951	2,187	2,672	2,935	3,549	3,670	4,025	3,461
East Coast U.S./Canada-Oceania	3,269	3,526	2,900	3,034	2,644	2,870	3,432	3,395	4,005	4,130
All other routes	9,775	12,262	12,973	14,052	14,187	14,740	16,004	20,529	25,306	20,271
Total	81,704	86,193	96,550	101,373	114,257	118,627	109,234	126,104	147,907	140,101

[1] Toll-paying ocean-going commercial traffic (vessels of 300 Panama Canal net tons and over). Source: *Panama Canal Company Board of Directors: Report of Panel on Proposed Changes in Rates of Tolls for the Panama Canal*, Sept. 13, 1976.

ing from the granary States of the Midwest and Great Plains to the cotton fields of Arkansas and Louisiana.

U.S. corn and soybeans bound for the Far East travel to Great Lakes ports or down the Missouri, Ohio, and Mississippi Rivers to the gulf for westward shipment through the Canal.

Short-staple cottons used by Asian markets are produced in Texas and the western Old South and shipped out of the gulf.

While White wheat and Hard Spring wheats produced in the Pacific Northwest tend to go to west coast ports, Hard Red Winter wheats and almost all grain sorghum move out of the gulf and—again—through the Canal.

Also of significance are shipments from the U.S. west coast to Europe, as well as to the U.S. east coast. Last year, 60,802 bales of California and Arizona cotton moved eastbound into export through the Canal. In addition, much canned fruits and vegetables moving from the west coast to east coast, as well as some citrus and dried fruits, go through the Canal.

Total shipping through the Canal during fiscal 1976 included 13,201 ship transits and cargo movements of 119.3 million metric tons. (However, this was the lowest level since 1965, reflecting the worldwide recession and reopening of the Suez Canal.)

Of all the foreign trade going in and out of U.S. seaports, 7 percent passed through the Canal in fiscal 1976, compared with 13 percent in 1949. More than two-thirds of this trade either originated in the United States or was destined for U.S. ports.

Tolls on the Panama Canal have been increased three times since 1974—once as a result of a technical change and twice to make up for deficits incurred by the Panama Canal Company, which is required by law to be self-sustaining. So far, these increases have carried charges some 50 percent above those prevailing before 1974, to $1.29 per ton currently.

Still, the Canal is a much more economic means of shipping bulk products than any other alternative now available.

Rerouting grain shipments around South America might almost double transportation costs, according to USDA analyses. And transit time would be increased considerably; for example, shipping time from New Orleans to Yokohama would rise from an average of 25 to 45 days in vessels that normally carry

Panama Canal: Movement of Major Agricultural Products Through the Canal in 1976

[In thousands of metric tons]

Commodity	Atlantic/Pacific	Pacific/Atlantic
Canned and refrigerated foods [1]	490	3,671
Barley	39	526
Corn	8,307	30
Oats	33	5
Rice	19	281
Sorghum	2,264	—
Soybeans	4,458	36
Wheat	2,478	708
Beans	33	38
Cocoa	9	51
Coffee	27	631
Copra, coconuts	—	115
Cotton	260	142
Molasses	—	662
Oilseeds	31	120
Skins and hides	2	45
Sugar	703	2,794
Wool	3	175
Edible oils [2]	144	980
Wheat flour	81	2
Tobacco	86	13
Total	19,467	11,025

[1] Including bananas, dairy products, fish, meat and other.

[2] Fish oil, vegetable oil, coconut oil and whale oil.

Note: Atlantic/Pacific Lumber and Products in 1976 were 216,000 metric tons and Pacific/Atlantic shipments were 5,432,000 tons.

Trade between the U.S. east coast and Asia was 47.9 million tons or 48 percent of the total Canal cargo volume through the Canal. Japan was the origin or destination of 44.7 million tons of cargo transiting the Canal or 77.1 percent of the total cargo moving to and from the Far East.

Source: *Panama Canal Company, Annual Report, Fiscal Year—June 30, 1976.*

Actual and Projected Panama Canal Traffic for Selected Agricultural and Related Products

[In thousands of long tons]

Commodity	Actual Fiscal year 1975 [1]			Projected Fiscal year 1977 [2]			Fiscal year 1978 [2]			Fiscal year 1979 [2]		
	P-A [3]	A-P [3]	Total	P-A	A-P	Total	P-A	A-P	Total	P-A	A-P	Total
Wheat	291	4,422	4,713	475	3,630	4,105	300	3,940	4,240	300	4,195	4,495
Coarse grains	230	9,405	9,635	455	11,365	11,820	340	12,770	13,110	340	13,595	13,935
Bananas	1,682	—	1,682	1,665	—	1,665	1,710	—	1,710	1,760	—	1,760
Sugar	2,852	1,389	4,241	3,280	950	4,230	3,420	1,000	4,420	3,510	1,050	4,560
Soybeans	10	3,472	3,482	80	4,555	4,635	100	5,085	5,185	100	5,455	5,555
Lumber	3,517	127	3,644	4,105	75	4,180	4,585	75	4,660	5,165	75	5,240
Pulp, paper, and paper products	2,625	695	3,320	1,975	630	2,605	2,520	725	3,245	3,045	620	3,665
Phosphates	84	5,092	5,176	25	3,740	3,765	25	4,155	4,180	25	4,670	4,695
Potash, fishmeal, and fertilizers	1,894	2,274	4,168	2,125	1,130	3,255	2,365	1,280	3,645	2,605	1,475	4,080
Refrigerated foods	1,683	409	2,092	1,680	332	2,012	1,675	310	1,985	1,685	257	1,942
Other food	2,923	947	3,870	2,660	545	3,205	2,501	530	3,031	2,432	520	2,952
Miscellaneous cargo and containers	5,144	3,828	8,972	5,725	4,990	10,715	6,160	5,660	11,820	6,595	6,295	12,890
Total traffic	56,009	84,092	140,101	52,875	74,478	127,353	55,600	78,467	134,067	58,449	81,719	140,168

[1] July-June. [2] October-September. [3] P-A=Pacific to Atlantic; A-P=Atlantic to Pacific. Source: *Panama Canal Company Board of Directors: Report of Panel on Proposed Changes in Rates of Tolls for the Panama Canal,* Sept. 13, 1976.

shipments of bulk grain.

Such factors would lessen the U.S. farmer's ability to compete for Asian markets, thus benefiting Australia and other exporting nations with access to the Pacific or those with closer locations to major markets. Cross-country land-sea transportation—including the minibridge system with surface carriers now used extensively for container shipping—also would be prohibitively expensive for grains and soybeans. Moreover, existing transportation and port facilities could not handle the volume increases that would be required to circumvent the Canal.

U.S. farmers and rural communities thus have much to gain from continued, dependable operation of the Panama Canal.

These benefits radiate throughout the economy. Farmers depend on the export market to take one in every three harvested cropland acres, amounting to a fifth of net farm income. And gross farm income in the first half of 1977 was running at an annual rate of $108 billion—more than that generated by any other U.S. industry—with some $85 billion of the production expense paid to people outside agriculture.

A Look Back

For early U.S. shippers, South America posed a formidable barrier capped by a hellish passage around Cape Horn through the Straits of Magellan. Probably the most vivid picture of shipping in the 1830's comes from Richard Dana's *Two Years Before the Mast* and his account of life on brigs laden with hides bound from the west coast for Boston. To Dana, the voyage from Santa Barbara, California, to Boston reached its climatic low on the trip around Cape Horn. Describing desolate Staten Land east of Cape Horn, Dana wrote:

"It was a place well suited to stand at the junction of the two oceans, beyond the reach of human habitation, and encounter the blasts and snows of a perpetual winter. Yet dismal as it was, it was a pleasant sight to us; not only as being the first land we had seen, but because it told us that we had passed the Cape—were in the Atlantic—and that, with twenty-four hours of this breeze, we might bid defiance to the Southern Ocean."

The "remote and almost unknown coast of California" described by Dana was eventually to become a bustling commercial and population center, while distant markets in Europe and the Far East were to figure importantly in U.S. trade. Transit time from the U.S. west to east coasts would be shortened from 150 days or more to about 2 weeks. Actual distance would be reduced by more than half with the building of the Panama Canal across the Isthmus of Panama some 80 years later. And costs, both human and monetary, would be cut dramatically.

Because of early shipping problems, however, attention was soon focused on building a canal across the narrow neck of the Isthmus of Panama.

In 1881, a French company began the first, unsuccessful, effort to build a sea-level canal across the Isthmus. Some 21 years later—on June 28, 1902—Congress approved the Spooner Act, authorizing President Theodore Roosevelt to buy for $40 million the rights and property of that company, contingent on provision by Colombia of the necessary land to be controlled by the United States.

The Hay-Herran Treaty, signed by the United States and Colombia, January 22, 1903, would have provided these rights for 100 years. The U.S. Senate ratified the Treaty, but the Colombian Senate refused.

On November 3, 1903, a revolt in Panama created the independent nation of Panama, and U.S. naval vessels prevented Colombian troops from landing to put down the revolt. The new nation was recognized by the United States on November 16.

Then, on November 18, 1903, the Hay-Bunau-Varilla Treaty was signed by the United States and Panama's Provisional Government. It granted the United States the exclusive right in perpetuity to build and operate a canal across Panamanian territory and all the rights it would possess as if it were sovereign.

The United States agreed to pay Panama $10 million outright and $250,000 annually beginning in 1913. This treaty has remained the basic authority for U.S. control of the Canal, although modifications were agreed to in 1936 and 1955.

The Canal was opened August 15, 1914, after 10 years of construction at a cost of $387 million. It is 51 miles long, and the Canal Zone is 647 square miles, including tidal water.

Under terms of the 1903 Hay-Bunau-Varilla Treaty, the Canal Zone is within the jurisdiction of the United States and is administered under U.S. law by a governor appointed by the President for a 4-year term. The governor serves as president of the Panama Canal Company, which is a corporate agency of the U.S. Government and operated under a Board of Directors appointed by the Secretary of the Army.

The Canal Company is responsible for all operations involved in the movement of ships through the Canal.

Following Panamanian riots in 1959 and 1964, new draft treaties were announced in 1967. These proved fruitless, and new treaty negotiations were begun in 1973, continuing until this year. Since 1964, four Administrations, representing both political parties, have pursued such negotiations.

Panama Canal Treaties

U.S. negotiations of new treaties have been based on the premise that the national interest lies in assuring that the Canal continues to be efficiently operated, secure, neutral, and open to all nations on a nondiscriminatory basis. The cooperation of Panama is fundamental to these goals.

The new treaties, signed in Washington, September 7, 1977, are contingent on ratification by the U.S. Senate and by national plebiscite in Panama. There are two treaties—one guaranteeing the permanent neutrality of the Canal, and a basic treaty governing the operation and defense of the Canal through December 31, 1999.

Provided the treaties are ratified, the United States will have responsibility for Canal operations, including tolls, during the period of the basic treaty (until 2000). It will continue to have access to and the rights to use all land and water areas and facilities necessary for the operation and maintenance of the Canal during that period.

Panama will receive an annual payment from toll revenues of 30 cents per Panama Canal ton transiting the Canal, this to be adjusted periodically for inflation. The United States also will pay Panama $10 million a year for operating expenses, plus $10 million more, if Canal revenues permit, compared with $2.6 million currently paid each year.

In addition, the United States has pledged its best efforts to assist Panamanian

development through loans and credits under existing U.S. authority.

Private business and nonprofit activities in the present Canal Zone will be able to continue on the same terms applicable elsewhere in Panama. A joint authority will coordinate port and railroad activities.

All U.S. civilians currently employed in the Canal Zone can continue in U.S. Government jobs until retirement. Other provisions generally assure the continuation of protections and benefits now available to these employees.

The two countries commit themselves jointly to study the feasibility of a new sea-level canal and, if they agree that such is necessary, to negotiate mutually agreeable terms for its construction. In addition, the United States will have the right throughout the term of the basic treaty to add a third lane of locks to increase the capacity of the existing Canal.

Other provisions of the treaties cover defense and national security considerations. The United States will have primary responsibility for the Canal's defense during the basic treaty's term, after which the U.S. military presence will end in the year 2000. Total U.S. military personnel in the Canal Zone is now 9,300.

U.S. agriculture's interest in the treaties hinges on continuation of dependable trading lanes throughout the world—free of exorbitant new increases in transportation costs. Higher energy costs have not been avoidable, but farmers need to know that the commodities they produce will not stack up in port or on the way to sea—owing to a closing of a major transportation route or a prohibitive rise in shipping costs. It is important that the Panama Canal Treaties perpetuate these conditions. □

U.S. Proposes Basis For New International Wheat Agreement

At the Preparatory Group Meeting of the International Wheat Council held in London during September 28-October 3, the United States proposed a framework for a new Wheat Trade Convention and Food Aid Convention that together would form a possible new International Wheat Agreement to replace the 1971 International Wheat Agreement currently due to expire June 30, 1978. The provisions outlined in the U.S. proposal are designed to promote several objectives: Contribute to the greater security of world food supplies, especially for developing countries; moderate extreme price fluctuations; promote expansion of international trade in wheat; assure adequate provision of food aid to developing countries; and encourage greater international cooperation on all aspects of wheat trade.

The United States proposes that the basic structure of a new Wheat Trade Convention should establish a framework for cooperative actions that would help to maintain prices within a range through measures that affect international supply and demand for wheat.

Low and high trigger price levels of a world wheat indicator price would be established. At each trigger price, each participating country would implement obligations for reserve stocks and temporary modifications of measures that prevent adjustment of utilization.

Consultations on additional measures would also be required at various levels of the indicator price.

A world wheat price indicator would be defined as an average of representative f.o.b. and/or c.i.f. prices of major internationally traded wheats in U.S. dollars at current exchange rates.

For the purposes of an agreement, reserve stocks would be defined as those stocks of wheat suitable for human consumption that can be accumulated, withheld, and released according to the rules established by the agreement and designated for this purpose.

Each participating country must ensure that its reserve stocks are in addition to minimum working stocks—and as a part of the negotiations, each country would present a plan for effectively meeting its reserve stock obligations. A target reserve stock to be collectively accumulated by participating countries would be established.

The target reserve share for each country would be negotiated, taking into account such factors as level of wheat production, consumption, trade, per capita GNP, and variability of wheat production.

Whenever the indicator price moved from a point between the low and high trigger prices to a point within an agreed percent of either trigger price, first stage consultations would be held. Their function would be to review the market situation, to evaluate the impact of nonparticipating countries on the supply and demand situation, to consider participating countries' plans for implementation of obligations if the trigger price is reached, and to make any recommendations deemed appropriate to carry out the objectives of the agreement.

Whenever the indicator price has been at or below the low trigger price for an agreed period of time, participating countries would be obligated to accumulate reserves, to temporarily modify any measures that prevent adjustment of utilization, to limit the use of export subsidies, and to participate in consultations as follows:

• Each participating country would begin accumulating reserve stocks at a rate of at least a specified percent of its target reserve share in each succeeding month. Accumulation would continue until either the low trigger price situation was terminated or its target reserve share reached.

If, for some reason, a participating country were unable to meet its schedule, it should explain its circumstances to a review committee and request approval for an alternative schedule, which must provide that its reserve stock share would be accumulated by the end of its current crop year.

If a country has had an

exceptional shortfall in its own wheat production during that year, it may request approval to postpone all or part of its reserve accumulation until the following crop year. Accumulation in that next year would be required even if a low trigger price situation no longer exists, but would be waived if a high trigger situation exists.

• To the extent that the indicator price falls below the low trigger price, each participating country would temporarily modify its measures, especially those applicable to imports and exports, which prevent increased utilization. Countries would undertake measures appropriate to the mechanisms of their respective systems. But such measures should involve a parallel decrease in the price at which wheat is available to domestic end-users and, for countries with quantitative controls, an increase in the supply of wheat to domestic end-users.

• Each participating country would limit the use of any prevailing export subsidies or other similar destabilizing measures.

• Consultations would be held to review the implementation of obligations.

Whenever the indicator price has been more than an agreed percent below the low trigger price for a certain period of time, consultations would be held to consider additional joint measures by participating countries, including an increase in reserve stock obligations, an increase in other stocks, and/or production restraints.

Whenever the indicator price has been at or above the high trigger price for an agreed period of time, participating countries would be obligated to release reserve stocks, to temporarily modify any measures that prevent adjustment of utilization, and to participate in consultations as follows:

• Each participating country would reduce its reserve stocks by release to commercial markets at a rate of a specified percent of its existing reserve stock in each succeeding month.

Such release would continue until the high trigger price situation has terminated or until the reserve stocks are depleted. However, an appropriate committee could determine and require an alternative schedule for release, if such would provide greater assurance of preventing further price increases.

• To the extent that the indicator price rises above the high trigger price, each participating country would temporarily modify its measures especially those applicable to imports and exports, which prevent a decrease in utilization.

Countries would undertake measures appropriate to the mechanisms of their respective systems. But such measures should involve a parallel increase in the price at which wheat is available to domestic end-users and, for countries with quantitative controls, a decrease in the supply of wheat to domestic end-users. However, certain countries might be expected to allow such adjustment only in the price or supply to livestock feeders.

• Consultations would be held to review implementation of obligations and to consider reduction or suspension of any prevailing measures to limit production.

Whenever the indicator price has been more than an agreed percentage above the high trigger price for a certain period of time, the following measures would be undertaken:

• Consultations would be held to consider other possible measures to prevent further price increases, including possible expansion of production.

• Each participating country would refrain from any quantitative differential pricing, or other measures that restrict the exportation of wheat to other participating countries, except in cases of national emergencies.

• Each participating country would suspend any prevailing measures that reduce or limit wheat production.

The International Wheat Council should establish any necessary committees or procedures to supervise the implementation of the provisions of the agreement.

During the course of the agreement, the Council as a whole may undertake to adjust the trigger price levels, the size of reserve stock obligations, or any provisions of the agreement, if such adjustments are deemed necessary to better achieve the objectives of the agreement.

The United States also proposes that a new Food Aid Convention be negotiated.

In accordance with the recommendations of the World Food Council, the availability of food assistance to developing countries should be assured at not less than 10 million tons on an annual basis. Responsibility for food aid should be widely shared among all donor and potential donor countries.

The new Convention should include provisions to insure that food aid quantities can be increased in response to special needs. In particular, donor countries should take steps to improve their capacity to maintain food aid flows during periods of high prices and to provide food aid in response to acute production shortfalls in developing countries.

Such measures might in-

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"In accordance with the recommendations of the World Food Council, the availability of food assistance to developing countries should be assured . . . responsibility for food aid should be widely shared among all donor and potential donor countries."

Brazil Soybean Output Up; Exports Slip

By Edmond Missiaen

Brazil's soybean production is rising and there is a great potential for even larger output in the future. However, the success of such an enlargement depends on the meshing of a number of factors: New land must be cleared, traditional land used more advantageously, and incentives continued at a level to encourage production. And above all, the weather must cooperate.

Brazil's soybean boom is continuing. Production in 1977 was up 11 percent from 1976's and, despite current, disappointing price levels, it appears that output in 1978 will be up by 7 percent or so.

Exports of soybeans during the current Brazilian marketing season (March 1977-Feb. 1978) are likely to be down slightly, but shipments of meal and oil will be up. The growth in export availabilities of soybean meal and oil will continue through the next several years.

The 1977 soybean crop (harvested Feb.-June) is estimated at 12 million metric tons, up 11 percent from the revised 1976 production estimate.

Yields in Paraná and São Paulo were down in 1977 because of very dry weather in December 1976-January/February 1977. Yields in Rio Grande do Sul, however, were higher than anticipated because of favorable weather throughout the growing season. Area and production estimates from Santa Catarina, Mato Grosso, Minas Gerais, and Goiás are fairly rough because of the lack of accurate information.

Soybean exports have been moving more slowly during the current export season than during last season. Nevertheless, by the end of the season exports should total around 3.2 million metric tons, down only slightly from the previous season's 3.33 million tons.

The slow rate of exports is largely because of producer resistance to falling prices. Brazil's most important soybean markets are the Soviet Union, Spain, the European Community, and the People's Republic of China.

Producers were euphoric early in the market year when Chicago prices were in the US$9-$10-per-bushel range. Producer prices in Brazil reached their peak in April when they averaged Cr$215 per 60-kilogram bag ($7.34 per bu). The general feeling among producers at that time was that prices would rise even further. When prices began to fall, producers and cooperatives—hoping for price recovery—resisted selling their stocks.

Mr. Missiaen is U.S. Agricultural Officer in São Paulo.

Stocks Large

As of early September, when producer prices had fallen to Cr$130 per bag ($4 per bushel), large stocks of soybeans were still in the hands of producers and cooperatives who were waiting for prices to improve. A Government announcement extending price support loans through November took pressure off producers to sell all of their stocks immediately.

The Brazilian crush of soybeans for the 1977/78 season is now forecast at 7.8 million tons, up 1.1 million tons from last year's estimated crush. The exact crush, however, could go as high as 8 million tons. The 1978/79 crush could be around 9 million tons, but as yet there are no firm indications of what this figure will be. It could easily be more.

Total crushing capacity for the current year—discounting capacity used for cottonseed, peanuts, and castorseed—is about 11.5 million tons. Capacity next season should be in the 12-12.5-million-ton range and by the opening of the 1979/80 season it could reach 15-16 million tons.

Soybean meal consumption in Brazil, based on crushers' sales to the mixed feed industry, is forecast at 1.15 million tons for the current season—up from last season's estimated 11-

month total of 980,000 tons.[1] On an average monthly basis, consumption this season is forecast to be up 7.5 percent from last year's. This growth is attributed to increased demand for feed by broiler producers, as well as by dairymen and hog producers. Beef animals are not fed mixed feeds in Brazil.

Soybean meal exports for this marketing year are expected to be around 4.8-4.9 million tons, up from 4.1 million tons in 1976/77. Major markets are the EC, Eastern Europe, and Spain.

Domestic soybean oil consumption (not including oil refined for subsequent export) is expected to be around 840,000 tons during 1977/78, up 40,000 tons from the last 11-month marketing year. The current marketing year's consumption on a monthly basis, however, is down nearly 4 percent from last year's. The decline can be attributed to greater domestic supplies of cottonseed oil this year.

It is expected that, for the whole of the 1977/78 market year, exports of soybean oil will reach about 500,000 tons, up from 430,000 tons last year. Brazil's largest soybean oil markets are Iran and India, but also include the PRC, Morocco, Pakistan, and Peru.

Forecast oil availabilities would permit exports of up to 600,000 tons, but at this point it appears unlikely that much will be shipped. This is mainly because the Brazilian Government has limited the export flow of soybean oil to assure abundant supplies for the local market. The Government has asked crushers to reserve 1 million tons for domestic consumption, even though actual consumption will probably be somewhat less.

Soybean oil exports in 1976/77 included over 40,000 tons of refined oil. Most went to Egypt and Colombia. So far, in 1977/78, less than 1,000 tons of refined oil have been shipped.

Indefinite Policy

Brazil's export marketing policy has been less precisely defined this year than last. Overall export quotas for soybeans, meal, and oil were not announced early in the year as in recent years. Instead quotas have been released little by little and usually have not been publicly announced.

As in previous years there are quotas for cooperatives, crushers, and export firms. Crushers are allowed to export only meal and oil, although cooperatives that own crushing facilities may export soybeans as well as meal and oil. State cooperative organizations and trade associations distribute quota exports among firms in their sectors.

The director of CACEX (Foreign Trade Department of the Bank of Brazil) has announced that next season's export marketing policies will be less restrictive than this year's. The August 15 withdrawal of individual export quotas could be an indicator of export policy next year.

Exports of processed soybean products are given more favorable tax treatment than unprocessed soybean exports.

During January-June 1977, exporters of soybean oil received an 8-percent credit toward their IPI (Industrial Products Tax—a federally administered VAT) account on export sales. This credit was reduced to 4 percent during July-December 1977 and will be eliminated in 1978. Income from export sales of soybean oil is excluded from the 30-percent corporate income tax. Subsidized credit (8 percent per year) is available to finance a portion of export operations for soybean meal and soybean oil.

The Government justifies tax and other fiscal advantages favoring exports of processed soybean products because of reportedly higher costs of crushing in Brazil, such as higher costs for energy and hexane than in other countries.

Planting of the soybean crop to be harvested in 1978 will not be completed until late December. It is expected that the area planted will be up in all the major producing States. For Brazil as a whole the forecast is for a 7 percent increase in area.

With "normal" weather this could result in a crop of about 12.8 million tons. This is a relatively conservative estimate, but there are several mitigating factors that make a larger forecast inadvisable at this time.

Although soybean prices have dropped catastrophically over the past few months, the current price remains remunerative for most producers, and the market conditions for competing crops—such as corn, cotton, and rice—are equally poor, if not worse.

Limiting Factors

Soybean farmers who have invested in land, equipment, and technical skills are not likely to decrease the area planted to their principal crop.

The principal factor that could limit area or yields for the next crop is the relatively small—16.9 percent—increase in next year's minimum price for soybeans. The minimum of Cr$11.20 per 60 kg (about $125 per

[1] **The 1976/77 marketing year covered only 11 months because in 1977/78 the beginning of the year was moved from April 1 to March 1 since the harvest now begins in February.**

Recent Brazilian Soybean Actions

1976/77 Marketing Year (Mar.-Feb.)

September 1976—Parana cooperatives authorized to make advance sales of 200,00 tons of 1977-crop soybeans.

January 1977—Cooperatives and exporters authorized to sell up to 20 percent of the volume of total 1976 crop sales.

February 17—CACEX meetings with cooperatives, exporters, and crushers result in no defined policy for 1977/78 except that the crushers agreed to set aside 1 million tons of oil and 1.2 million tons of meal for domestic consumption.

1977/78 Marketing Year (Mar.-Feb.)

March 7—Export registrations in excess of 20 percent of previous year's sales authorized.

March 11—Issuance of export licenses suspended.

March 23—Seven percent tax (confisco) on exports of soybeans, soybean meal, and soybean oil announced. All export sales registered since March 11 subject to the tax. Tax receipts to finance subsidy on domestic soybean meal and oil prices.

March 28—Issuance of export licenses opened for fixed-price contracts.

April 13—Issuance of export licenses opened for non-fixed price contracts. Government reserves right to set quantity and time limits on these contracts.

April 21—Export registrations for soybean oil closed while Government ascertains domestic market requirements.

May 3—Export tax increased to 12 percent.

May 30—Export registrations for soybean oil open.

July 1—Export tax reduced to 7 percent.

July 25—Export tax reduced to 4 percent.

August 15—Export quotas for soybeans for individual export firms and cooperatives dropped.

August 18—Export tax eliminated.

ton, or $3.40 per bushel, at the September 1977 exchange rate) is in line with cost of production studies done by the Ministry of Agriculture. But the increase is far below the 40-percent rate of inflation for the past year.

The price of seed has nearly doubled (and there is reportedly a shortage in some areas); gasoline and diesel fuel have gone up 60 percent; and fertilizer prices (without considering the subsidy available last year) have increased about 30 percent. Thus, the use of purchased inputs, especially fertilizer, could decline and adversely affect yields. Fertilizer sales are reportedly well behind last year's.

The decline in wheat area this year in Rio Grande do Sul could favor more timely planting of soybeans. Limestone applications have also been high in Rio Grande do Sul.

The most rapid increase in Brazil's soybean area was registered for the 1973 and 1974 crops, when area grew by about 1.5 million hectares per year. Since then area has been growing by 500,000-600,000 hectares annually.

Growth has come with the opening of new lands not previously used for agriculture (western Paraná and Mato Grosso), conversion of pastureland to soybean cultivation (Rio Grande do Sul, southern Paraná, and Mato Grosso), conversion of coffee land to soybeans (northern Paraná and São Paulo), and switching from other annual crops (corn, dry beans, cotton, rice, peanuts) to soybeans (all areas).

Double Cropping

Wheat is double cropped with soybeans in most producing areas. High Government guaranteed prices for wheat make this practice profitable, even with low wheat yields that average around 1 metric ton per hectare. This year wheat area was equal to only about 46 percent of soybean area (last crop), down from 56 percent last year. (This decline was caused by wheat crop failures in the 2 previous years and by a lower-than-hoped-for guaranteed price.)

Double cropping with wheat lowers costs by providing soybean farmers a more effective way to use machinery and other resources throughout the year. Winter wheat cultivation, however, is limited to zones with winter rainfall. These are roughly south of latitude 22° south in western São Paulo and 21° south in Mato Grosso.

So, how much farther can Brazil's expansion in soybeans go? Over the long run, the answer depends upon how successful soybean cultivation proves to be in the marginal cerrado lands in the States of Minas Gerais, Goiás, and Mato Grosso. (Southern Mato Grosso, where most of the State's soybeans are currently grown, is, for the most part, not cerrado land.) The cerrado lands lie outside the winter rain belt, thus wheat could not be grown as a second crop in most of these areas without irrigation.

There is still, however, substantial room remaining for expansion in the "traditional" (present) soybean areas. It is in these areas that most area expansion is likely to occur over the next 3 or 4 years. In Rio Grande do Sul there is little room for expansion in the northwestern part of the State, which now accounts for about 80 percent of the State's output.

Soybean cultivation spread rapidly in this area because farms are relatively small (average around 60 hectares)—too small to produce a good income from extensive livestock raising. Many of these farmers are descendants of 19th century European immigrants.

Large cattle and sheep ranches predominate in the rolling grasslands of southern Rio Grande do Sul. Land prices here are substantially lower than in the State's soybean belt, but are rising rapidly as young soybean farmers "invade" the area looking for room in which to expand production. Livestock producers in this area also are discovering that soybeans can be profitable (especially when compared with the current low level of beef prices in Brazil).

It would be possible for Rio Grande do Sul to sustain an area increase in soybeans of 4-5 percent per year for several years as these "new lands" in the south of the State are brought under cultivation. The lower fertility of these lands could indicate a slowing in the rate of soybean-yield increases for the State, however.

In Paraná, most of the rich frontierlands of the west have been brought under cultivation. State Government officials, however, estimate that between yet-to-be-utilized land in the present soybean areas, and underutilized pasturelands in the center of the State, there exists a potential 1 million hectares for the expansion of soybeans. Soybean yields in areas currently under pasture would tend to be lower than present State-wide soybean-yield averages.

Southern Mato Grosso is expected to be the area of most rapid growth in soybeans over the next few years. Area increased by an estimated 44 percent in 1977 (some sources estimate even more), and a repeat is likely for next year's crop. Soybean expansion here has been at the expense of lightly utilized pasture, woodland, and land in rice and coffee.

Medium-Term Outlook

Mato Grosso's medium-term production potential is probably in the neighborhood of 1.5 million tons. Over the long term, it could be much more. Some continued expansion is also possible in São Paulo and Santa Catarina.

How much, if any, expansion in production actually occurs is, of course, dependent on market forces. The monoculture of soybeans, as presently practiced in many Brazilian areas, could also limit long-run growth. In many areas soybeans are the only major summer crop. This along with the mild winter could lead to future pest and disease problems. □

Brazil: Soybean Production and Area by State, Preliminary 1977

State	Area	Yield	Production
	1,000 hectares	*Kg per hectare*	*1,000 metric tons*
Rio Grande do Sul	3,450	1,643	5,670
Paraná	2,300	1,957	4,500
São Paulo	445	1,753	780
Santa Catarina	340	1,324	450
Mato Grosso	260	1,600	420
Minas Gerais, Goiás	150	1,200	180
Total	6,945	1,728 avg.	12,000

German Oilseed Needs Dipping Slightly in 1977

West Germany's oilseed imports in 1976 rose to a new record, largely as a result of that year's severe summer drought. However, estimates of the country's soybean meal consumption point to moderate decline during marketing year (October 1976-September 1977).

For most of the 1977/78 marketing year, an increase in feed demand is expected to be much higher than the country's additional requirements for its rising milk and pork production. As well, high prices coupled with increased fishmeal and grain use will tend to reduce Germany's needs for imported oilseeds and meals, this year.

Germany's takings of copra, sunflowerseed, and rapeseed last year rose sharply. Although soybean imports dropped, the U.S. share of Germany's soybean imports jumped about 400,000 metric tons, accounting for about 54 percent of total oilseed imports.

The structure of farming in West Germany does not allow drastic reductions or increases in livestock and poultry production. Changes in livestock numbers have much smaller effects on the use of oilseed meals than changes in price and supply of competing feeds. Moderate gains in total livestock and poultry outturn are expected this year.

Germany's oilseed imports increased to almost 4.7 million tons in 1976 from 4.3 million in 1975. The soybean share of these imports fell from 80 percent in 1975 to 74 percent in 1976. Although total soybean imports dipped about 100,000 tons to 3.4 million last year, the U.S. share rose from 2.3 million tons to 2.5 million. Also in 1976, small but rising soybean shipments came from Paraguay (94,900 tons) and Argentina (31,400) while bean imports from Brazil (370,000) were below levels of the previous 2 years.

Soybean meal imports rose 13 percent to almost 868,000 tons in 1975/76. Imports of U.S. soybean meal jumped 14 percent to 431,300 tons in 1976 as the U.S. share of that market increased slightly to almost 50 percent.

Rapeseed is the only commercially grown oil crop in West Germany. Production last year totaled 221,500 tons from an harvested area of 94,800 hectares, compared with 199,042 tons from 90,294 hectares a year earlier. Nonetheless, rapeseed imports rose sharply to 200,000 tons last year, up from 116,000 in 1975. This year, planted area expanded about 15 percent as all farmers shifted to low erucic acid varieties of rapeseed.

Copra imports rose substantially to 413,000 tons in 1975 and hit a record high of 525,000 in 1976.

As well, Germany's imports of sunflowerseed increased from 96,000 tons in 1975 to 246,000 last year. As a result of smaller sunflower crops in the Soviet Union and other producing countries, imports of U.S. sunflowerseed jumped from $23.7 million worth in 1975 to $61.1 million last year. However, German imports of sunflower oil fell 37 percent to 66,300 tons in 1976.

The period from early 1976 to April of this year was marked by exceptionally low supplies of German-grown cattle feed, resulting from poor pasture conditions during the previous spring and summer, and small hay and silage crops. In addition, the feedgrain harvest fell from 12.0 million tons in 1975 to 10.3 million in 1976.

These developments occurred when there were large foreign availabilities of copra and palm kernel meals—traditionally the main ingredients in dairy feed supplements. Also during this period, a deficit of forage and roughage plus growing pork production increased demand for soybean meal. About two-thirds of soybean meal and virtually all residues of copra and other oilseeds are sold to farmers in the form of mixed feed.

During the past few years, soybean, coconut, palm, and sunflower oil accounted for about 80 percent of Germany's total oil consumption. While there has been considerable substitution between palm oils and soybean oil, the amount of sunflower oil remained stable even during times of high prices. This is attributed to the constant demand for identified sunflower margarine and cooking oil.

But this year, the German Agricultural Market Promotion Institute (CMA) has made great efforts to improve the position of rapeseed oil. Domestic rapeseed oil was scheduled to be marketed under a CMA brand name in July.

Use of cooking and salad oil has been following a definite uptrend, with short-term fluctuations tied to drastic price changes. The country's total consumption of fats and oils increased 30,500 tons to almost 1.6 million in 1976.

Germany's per capita consumption of edible oils fell from a high 26.4 kilograms in 1970-71 to a low of 24.9 in 1975. This reduction, attributed mostly to health considerations, occurred in butter and margarine. Last year, however, margarine consumption rose nearly one-half pound per person while that of salad and cooking oil continued to rise.

Some German farm leaders have been concerned by the continuous reduction in butter consumption and the strong growth of vegetable fats, which hit a record 54 percent of the country's total consumption in 1976. It is feared that "butter is drowning in a flood of oil."

A recent study by the University of Bonn has added to that concern. The survey found that the increase in margarine intake, at the expense of butter, is largely a "generation problem," and less influenced by prices.

Therefore, it is believed the trend cannot be reversed by Government programs. The health image of margarine is based on several factors. Butter is regarded as a calorie-rich, fattening food, with younger people preferring the "high vitamin content" of margarine. Margarine is also popular because of its low cholesterol level and high percentage of unsaturated fatty acids. □

Based on a report from the Office of U.S. Agricultural Attaché, Bonn.

U.S. Is Still Australia's Major Tobacco Source

Australia reduced its imports of unmanufactured tobacco and cigarettes in 1976, but the United States was again the major source for both. In 1977, demand for imported leaf is expected to be somewhat better.

This country supplied 50.5 percent of Australia's 1976 imports of 9,200 tons of leaf and 73 percent of the 882 tons of foreign-made cigarettes. But the U.S. market share for unmanufactured tobacco was at a record low, and compared unfavorably with 54.2 percent in 1975 and 59.5 percent in 1974. The U.S. cigarette import share reflects a slight rise from the 69 percent of 1975.

Behind the cut in Australia's leaf imports were a number of factors. Among them were the approximately 10 percent drop in consumption that followed the imposition of higher excise duties in 1975, a boost in the proportion of domestic leaf in manufactured products, and the decision by manufacturers to work down onhand stocks of foreign leaf because of high producer prices. The result was that imports in 1976 fell by about 5,000 tons (32 percent) from the previous year's 14,200 tons.

The United States supplied 4,640 tons of these leaf imports, a volume about 40 percent less than 1975's imports of 7,690 tons. Imports from other suppliers also were generally below those of the previous year, although the Philippines and Greece increased their sales slightly. Virtually all of the imported leaf consisted of flue-cured, as Australia produces enough burley to meet most of its requirements.

Other than the United States, Australia's major leaf suppliers in 1976 (with shipments in tons and comparable 1975 figures in parentheses) were: Greece, 769 (758); Malawi, 749 (1,081); the Republic of Korea, 530 (1,486); Thailand, 456 (573); the Philippines, 381 (373); Turkey, 317 (406); and Brazil, 250 (512).

Imports of tobacco products during 1976 showed little change from those of the previous year. Purchases of cigarettes totaled 881 tons, compared with the 905 tons imported during 1975. Of the 1976 total, the United States supplied 644 tons, the United Kingdom 209 tons, and France 16 tons. The United States was the only one of these whose imports increased.

Imports of cigarette tobaccos were about 200 tons higher than in 1975, while imports of pipe tobaccos were slightly lower. In addition, Australia imported 85 tons of chewing tobacco, snuff, and similar products.

Australian production of cigarettes during calendar 1976 totaled 29,850 million pieces, comprising 29,591 million from blended domestic and imported leaf for domestic consumption, and 259 million either from imported leaf or of blended domestic and imported leaf for export. This compares with production during calender 1975 or 31,777 million pieces for domestic consumption and 390 million for export.

Total weight of cigarettes produced for domestic consumption was 26,997 tons, compared with 28,982 in in 1975, or a decline of nearly 7 percent. Since the number of pieces fell just 6 percent, it appears that the trend toward smaller or lighter cigarettes continued during the year. Because the excise duty is assessed on a weight basis, any reduction in individual cigarette weight represents a considerable overall saving on the excise tax collectible.

Australian production of other tobacco products, by category, in 1976 was: cut tobacco (for cigarettes or pipe), of imported and domestic tobacco for domestic consumption, 2,237 tons; of both categories of tobaccos for export, 6 tons, and all of domestic tobacco, 11 tons.

The outlook for calendar 1977 is for a continuation of the circumstances experienced in 1976. Although consumption is currently showing some recovery, it is unlikely to climb to the 1974/75 level, partly because of stepped up antismoking campaigns in several States and partly because of the continuing economic problems facing manufacturers.

Stocks were reduced in 1976 and will have to be replenished in 1977. However, it is evident that in the present climate of uncertainty, manufacturers will keep stocks at the lowest possible level. Accordingly, the increase in 1977 imports over those of the previous year were expected to equal the country's general recovery in consumption.

Australia's tobacco growing industry is controlled through a Tobacco Stabilization Scheme, which was first introduced in 1965. This or-

Based on dispatch from Harlan J. Dirks, U.S. Agricultural Attaché, Canberra.

Poland Ups Poultry Production

All sectors of Poland's poultry industry are expected to gain in 1977, owing primarily to the Polish Government's priority development of the poultry industry during the current 5-year planning period (1976-80).

Production of poultry meat in 1977 is forecast to be up 14 percent to 329,000 metric tons, compared with the 15-percent gain to 288,000 tons realized in 1976, when increasing broiler output accounted for over 80 percent of total growth.

The 1976 performance—as well as the gains expected this year—continues the growth trend since 1970 of annual increases at or around 10 percent.

Based on a report from Gerald W. Harvey, U.S. Agricultural Attaché, Warsaw.

ganized marketing scheme was last extended for a further 5-year period beginning with the 1974 tobacco selling season.

The Stabilization Plan is administered by the Australian Tobacco Board at the Federal level and the State Tobacco Boards at the lower level. The Ministry of Primary Industry determines each year a domestic leaf marketing quota for Australia, which is then divided between the States according to a predetermined formula.

When there is a shortfall in one State, the unmet quota may be allocated to the other States in proportion to their share of the national quota, unless the shortfall can be covered by overquota leaf carried forward from previous years. However, currently, all States have considerable overquota stocks.

The price stabilization program is based on a domestic mixing percentage, which all manufacturers have to meet for products sold on the domestic market. The statutory mixing ratio is 50 percent domestic leaf to the same percentage imported. but following substantial overproduction of leaf in Queensland and Victoria during 1971 and 1972, considerable pressure on manufacturers led to an increase in the effective mixing rate of 55 percent for domestic tobacco.

In 1976, similar pressure from growers and the Government resulted in a further increase to 58 percent.

Marketing quota leaf is bought by manufacturers at minimum prices determined each year by the Australian Tobacco Board. The Board compiles a minimum grade and price schedule, which is designed to give a national minimum average price to growers at a normal average grade fallout. □

Broiler meat output—at a projected 200,000 tons—will be up some 14 percent in 1977, compared with the 22-percent gain of 1976.

Slaughter of ducks and geese in 1977 is projected at 51,000 tons, up 21 percent over the 42,000 tons produced in 1976. Production of ducks and geese snapped back in 1976 after having slumped in 1975 to 39,900 tons. However, exports of these items, which accounted for the major share of Poland's poultry exports, dropped again in 1976 for the second year to 11,200 tons, with another drop to 8,000 tons expected this year.

Turkey meat output, although relatively low (8,000 tons forecast for 1977 and 6,000 tons in 1976), has shown substantial increases in recent years.

Polish egg production is expected to rise marginally in 1977 to 8.125 billion eggs, compared with the 8.013 billion produced in 1975 and 1976. Higher yields kept 1976 production at the same level as in 1975, despite a sharp drop in layer numbers. State purchases of eggs in 1976 were estimated at 2.852 billion, with private farms supplying 99 percent.

Total poultry meat exports in 1977 are expected to fall to 18,000 tons, following a 13-percent decrease in 1976 to 20,200 tons. No poultry or egg imports were registered for 1976 and none are expected in 1977.

Per capita consumption of poultry meat was up in 1976 to 7.8 kilograms (6.6 kg in 1975). Since the red meat/poultry price relationship remains unchanged and continues to be unfavorable to poultry, the significant increase in poultry consumption was because of short market supplies of red meat.

According to a December 31, 1976 census, poultry numbers (other than broilers) fell to 79.2 million head—off 20.6 million from year-earlier levels. Broiler numbers continued upward in 1976 to 155.9 million head, compared with 112.3 million a year earlier.

According to recent reports, Poland plans to invest some Z128 billion during the current 5-year planning period for development and modernization of all aspects of its poultry breeding and production industry.

In 1977, the goal is to bring an additional 400 farms specializing in poultry output on line in order to raise the number of farms to 950 by the end of the year.

Modern commercial egg farms are expected to produce an estimated 500 million eggs this year. In 1978, that number is expected to rise to 900 million. In addition, 15 large egg farms are planned or under construction—each with a capacity of 500,000 hens—with an annual total production potential of 1.5 billion eggs.

The outlook for poultry production in Poland is for continued development and expansion, motivated by short market supplies of meat (particularly pork), relatively low consumption of poultry compared with other developed countries, and the relative grain conversion efficiency of poultry versus other livestock. □

Uruguay's Beef Exports Drop

Uruguay's new emphasis on beef for domestic consumption and the country's apparent shortage of fiinished cattle indicate a lower level of beef exports during calendar 1977 than in 1976.

Beef exports during January-May totaled 55,400 tons (carcass weight equivalent), compared with 90,600 tons during the comparable 1976 period—a decline of 39 percent.

Recent Government actions indicating emphasis on domestic consumption of beef rather than on beef exports include a decree freeing steers under 2 years, calves, bulls, and young bulls from price control and establishment of a tax of about $140 per ton on beef exports.

Trade sources report that the Government has requested meat export plants not to enter into new export contracts and to make beef available for domestic consumption. The suspension apparently does not affect meat sold but not shipped.

The Government actions suggest a reversal of previout policies. Last year, Uruguay's beef exports were maintained even when domestic beef supplies virtually disappeared during July-November. These supplies did not return to normal levels until early 1977.

The Government still subsidizes domestic beef prices and taxes export plants for the difference these plants receive from export sales over the amounts paid for cattle.

Uruguay's beef supplies normally increase in the spring (starting in September). The Government could release some beef for export at that time. □

Deer Farming—New Zealand's New Meat Industry

By Harold T. Sanden

New Zealand has a relatively new and rapidly expanding meat industry—deer farming. Deer were introduced into New Zealand in the 1800's and have multiplied so rapidly that a venison export industry has become of major importance to the country. Tests show no appreciable difference between the flavor of wild and domesticated deer.

Rising overseas demand and good returns are attracting some New Zealand farmers to deer production. On this New Zealand farm, both deer and cattle are stocked.

Deer farming—a small but rapidly expanding New Zealand industry—is challenging sheep raising for profitability.

From a start of one or two deer farms on New Zealand's South Island in 1972, this infant industry has grown to an estimated 130 producers with more than 20,000 breeding animals.

Returns from the sale of breeding hinds (females) rose from an average $300 in 1975 to $400 in 1976. Sales of export venison brought the average deer farmer $2.60 per kilogram in 1976, while New Zealand lamb returned its producers only 72 cents per kilogram at the end of the 1976 season.

In addition to the returns for meat, important byproducts include stag antler velvet, which is sold in the Orient as an aphrodisiac for $40-$50 per kilogram. Older stags can produce up to 2 kilograms of velvet per year.

Deer were first brought to New Zealand in the mid 1800's. Except for human hunters, predators did not exist, and deer numbers multiplied rapidly.

By the 1960's large numbers of deer were causing extensive damage to forest grazing lands and were competing with sheep flocks for high-country feed supplies. Sheep producers demanded a Government culling program to reduce deer numbers.

In 1970, the Government authorized several firms to thin out the deer population by shooting from helicopters and subsequently retrieving and removing the fallen animals to processing plants. Carcasses thus collected are examined by Ministry of Agriculture inspectors, and meat approved for export is then frozen before shipment.

The author is U.S. Agricultural Attaché in Wellington.

For the 1970/71 year, 112,000 deer carcasses, valued at $4.5 million, were processed. Volume was down slightly to 111,000 for 1971/72, but value rose sharply to $5.3 million, and in the following year volume climbed to 117,000 carcasses, valued at $6.3 million.

Numbers declined to 90,000 for 1973/74 and to 64,000 for 1974/75 as a result of the concentrated heavy kills in the previous years and the depressed world meat market in 1974 and 1975, but value amounted to $6.9 million for 1973/74 and $6 million for 1974/75.

Sheep producers, during 1974 and 1975 faced with low prices for lamb, mutton, and wool, looked longingly at venison prices, which were returning more than $1 per pound to exporters.

Since deer could flourish in the wild state, some entrepreneurs reasoned, how much better could the animals do with assistance in a controlled environment?

Several questions had to be answered before a viable industry could be established:

- Would the feral nature of the animal permit it to be properly managed in fenced, controlled conditions?
- Could traditional methods of sheep husbandry be applied to deer farming?
- Could new markets be developed to take an increasing amount of venison each year?
- Would the domestication destroy the gamey flavor of venison, so desired by connoisseurs of the meat?

Several hardy souls set out to give deer farming a try, and today are doing nicely in their small but prosperous new industry.

Some of the forms of Government recognition and assistance extended to the new industry include research at the Invermay Agri-

cultural Research Center on South Island and the promulgation, in 1975, of national game meat regulations.

These regulations recognize two classes of venison: Meat from animals not inspected prior to slaughter (so-called kill deer), and meat from animals inspected both before and after slaughter (slaughter deer).

Kill-deer numbers are expected to decrease, while the slaughter-deer total should expand as demand for this meat expands in the United States and other countries.

The main export market for kill deer has been West Germany, where this type of meat is accepted provided prescribed standards of carcass dressing are met.

Research at Lincoln College, near Christchurch, on captive deer showed extremely good reproductive rates, high stocking rates per hectare, and high productivity of venison per hectare. The principal problems have been in handling of animals.

Initially, the animals at Invermay were reported to be extremely nervous and unwilling to be herded into the confined, narrow raceways.

However, solid-sided handling yards were provided, and as they became increasingly accustomed to the presence of humans and dogs, the deer showed marked change in domesticity at the end of 6 months.

The calving rate rose from 76 percent in 1973 to 92 percent in 1976. Generally, the red deer hind mates about mid-April and calves about the first of December. Growth starts in the early summer and continues for about 6 months.

The growth rate of stags appears to fall off as the animal matures and approaches the breeding season.

Most deer were slaughtered at 18 to 27 months. Slaughter weights of farmed deer were almost twice those of feral deer, and feedlot stag slaughter weights averaged 20 kilograms more than their grass-fed counterparts.

Preliminary research at Invermay confirms that there is no appreciable difference between the flavor of wild and domesticated deer. However, a greater degree of quality uniformity is possible with venison produced on deer farms, compared with meat from wild deer.

Venison's big advantage over lamb and mutton is its extreme leanness. Farmed deer only 20 months old tested only 6 percent fat in the meat, while the fat content of the ram lambs at the same age averaged over 29 percent.

Results of industry performance to date indicate improved earnings from the land for New Zealand farmers in this new enterprise.

However, several problems exist, mainly connected with the seasonality of the slaughter period. Growth patterns indicate March is the month of optimum slaughter advantage, and this peaking puts a high overhead unit cost on processing.

In many agricultural endeavors, it is usually the pioneers who reap the biggest benefits. Returns generally decline as an expanded number of producers compete in a limited market.

How well New Zealand's farmed venison is promoted in world markets will determine the limits that may eventually be placed on expansion of production. □

Export Risk Assurance Plan

USDA proposes to help protect agricultural exporters' sales contracts with deferred payment terms against payment defaults resulting from events other than ordinary commercial risk, such as insurrection or expropriation. The protection program would use facilities of the Commodity Credit Corporation (CCC) for agreements with exporters.

Proposed regulations for the Noncommercial Risk Assurance Program (GSM-101) were published in the October 3, 1977, issue of the *Federal Register*.

An exporter who sells on credit generally requires an importer to provide an irrevocable letter of credit from the importer's bank in favor of the exporter to cover all future payments. In this way, the foreign bank adds its promise to that of the importer that all payments will be made when due.

Under the new proposal, upon payment of a fee such an exporter could enter into an assurance agreement with CCC. Under the agreement, if the foreign bank issuing the letter of credit defaulted in any payment, CCC would remit the amount of the default to the exporter, provided the default was caused by conditions covered in the agreement, such as war, hostilities, civil war, rebellion, insurrection, civil commotion, expropriation, confiscation or like action, imposition of any government order having force of law, or failure to convert local currency to dollars.

CCC will consider written comments on the proposal until November 3, 1977 (Asst. Sales Manager, USDA, Washington, D.C. 20250). □

Continued from page 7

Wheat Agreement

clude separate food aid reserves, forward programing of food aid quantities, special financial reserves, and/or greater flexibility in budgeting funds for food aid. Mechanisms for improving coordination among donor countries and for avoiding disincentives to production in recipient countries should be considered. □

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UNCTAD Cotton Meetings Study Buffer-Stock Scheme

Continued discussions of a proposed international buffer-stock scheme for cotton and additional analyses of problems affecting world cotton trade will top the agenda of the second United Nations Conference on Trade and Development (UNCTAD) preparatory meeting on cotton, scheduled February 6-10, 1978 in Geneva.

At the first preparatory meeting, held in Geneva June 20-24, some countries favored the buffer-stock scheme as a safeguard for prices received by developing countries. Other countries raised questions about its technical and economic feasibility. Still, it was generally agreed that excessive price/supply fluctuations can adversely affect both producer and consumer interests, and lessen cotton's competitiveness with manmade fibers. Representatives of 56 countries and six intergovernmental organizations attended the meeting; the U.S. delegation included representatives from Government and various sectors of the cotton industry.

The meeting examined buffer stocks as a means of achieving more stability in world cotton prices and supplies, and improving export earnings—a particular concern of less developed countries that produce and export cotton. In addition to buffer stocks, the UNCTAD integrated program contains other features, which may be discussed at a later time.

It was decided that further study should be made and the UNCTAD Secretariat was requested to prepare additional analyses and background material in cooperation with the International Cotton Advisory Committee, International Institute for Cotton, and the Food and Agriculture Organization.

Tasks of the second preparatory meeting on cotton include studies of:

- Current problems of cotton markets, in particular reasons for the recent excessive price fluctuations. Measures should be studied to provide more adequate and reliable market information on trade in various growths and qualities of cotton;
- Structure of prices and production costs, and their interrelationships; and
- Measures to stimulate demand, and to strengthen research and development of markets for cotton and cotton goods as well as the production of finished manufactured goods.

Developments at the February 1978 meeting could be influenced by the outcome of another UNCTAD meeting (scheduled November 7-December 2 in Geneva) on proposals to establish a common fund for financing buffer stocks.

While cotton yarn was not discussed at the first preparatory meeting and not included in the terms of reference for the next meeting, it may be considered in the future. However, some representatives pointed out that the yarn trade already is handled under the Multi-Fiber Arrangement (MFA).

The June meeting was one of several being held on certain agricultural and mineral commodities as a result of decisions during the fourth general session of the Conference (UNCTAD IV) held at Nairobi, Kenya in May 1976.

The preparatory meetings are considering measures related to developing countries' goals of expanded participation in the marketing, distribution, and transportation of their commodities. □

Correction: October 3 issue, lead article ("Japanese Funds Going Into U.S. Farm Sector"). The first sentence of the introductory paragraph beneath the title should have read: "Japanese data show that investments in North America by the Japanese Government and private investors in foodstuff manufacturing, agriculture, and forestry total some $99 million, comprising a minor percentage of Japan's worldwide investments of $19.4 billion."